Technical Notes

Viewing a map from a Web Map Service (WMS) Capabilities file

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Issue

Many mapping services are now publishing a Web Map Service (WMS) Capabilities file, which you need a map viewer to preview the maps. This technical note discusses two options for viewing the layers within a WMS map service by loading the capabilities file into a public domain map viewer.
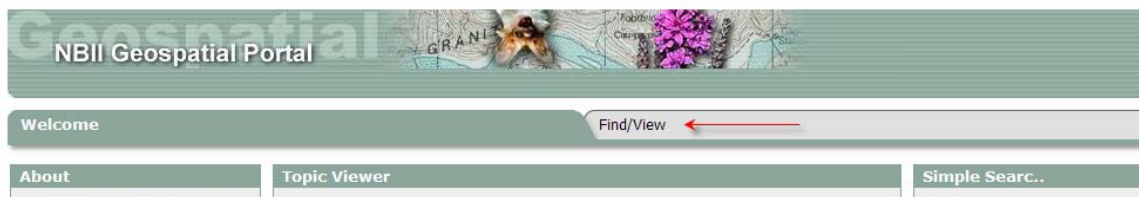
I. Overview

A WMS capabilities file is an XML document that describes the capabilities and layers available for a WMS map service. This WMS capabilities file is very similar to an ArcIMS AXL file, but that the WMS capabilities file is software independent and can be opened using a map viewer that works on the Open Geospatial Consortiums (OGC) specifications for WMS. This paper details the steps necessary to open a WMS in two available open viewers: The NBII's Open Map Viewer and the Geospatial One Stop Map Viewer.
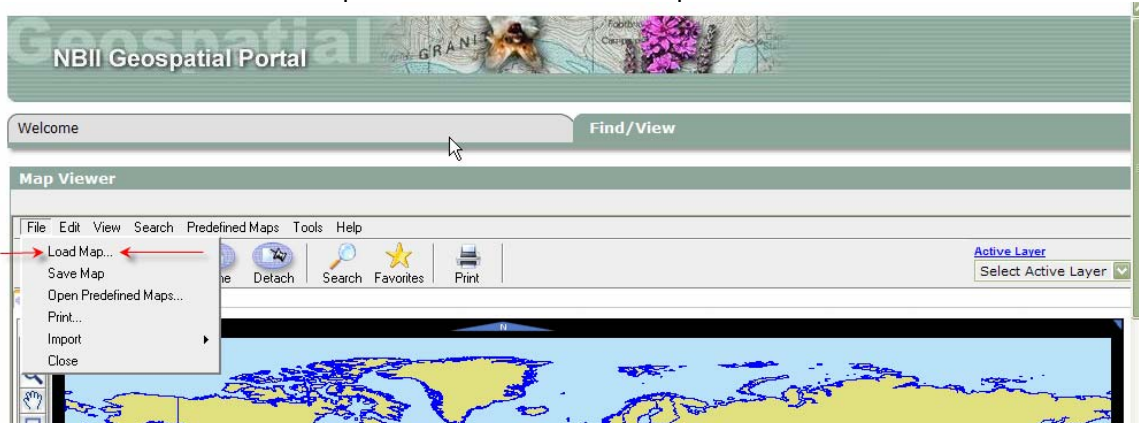
II. Loading into NBII's Open Map Viewer

▶Open a browser and go to: http://nbii-catalog.ornl.gov

▶Click on the Find/View tab

▶Click on the File Menu option and select Load Map

►You will get a popup. Make sure your browser accepts pop-up windows from this site.

►Select <specify a number of layers form an OGC WMS Server to add to the map> and click next

Load Map View

You can load a map view using a number of methods. Please select the method you wish to use from the list below:

○ Upload a WMS Context document from my computer.

→ ○ Specify a number of layers from an OGC WMS Server to add to the map. ←

○ Specify a number of layers from an ArcIMS Server to add to the map.

NEXT   **CLOSE**

►Paste the Capabilities URL into the field provided, then click next

Enter the url for the WMS service.

Please enter a valid URL.
(e.g. **http://geo.compusult.net/scripts/mapman.dll?Name=weather**)

WMS Service URL: http://gapwms.nbii.gov/wmsconnector/com.esri.wms.Esr ←

Next: validate url and construct layer list.

BACK   **NEXT**   **CANCEL**

Special NOTE: This URL can be found in the GAP metadata record in the relation field as the WMS capabilities is a related URL of the mapping application.

1. **CRISIS Maps Weed Map and Data Server**   summary
   Description: CRISIS Maps is an interactive map display and data viewer for invasive weed observations in the regions of California and the Southwest, developed by the California Information Node of the National Biological Information Infrastructure. The weed...
   Creator: Information Center for the Environment, UC Davis, California Information Node, National Biological Information Infrastructure
   Publisher: Information Center for the Environment, UC Davis
   Controlled Subject: Invasive species, Mapping
   Resource Identifier: http://cain.nbii.org/crisis/crisismaps
   Resource Type: Databases and Information Systems, Internet Map Services
   Format: Interactive Mapping
   Language(s): English
   Rights Management: Copyright held by Publisher
   Cataloguing Node: California Information Node
   → **Relation:** http://cain.nbii.gov/cgi-bin/mapserv?
   map=/var/www/html/cain/crisis/crisismaps/wmsspecies.map&request=GetCapabilities

▶Select the check boxes for the layers you would like to see, and click on the <<Add these layers to the Map>> button.

This page displays a list of the layers that were selected to be added to the map. Select the **Title** link to preview an individual layer. Select the checkbox for the layer(s) you want to add then select the **ADD SELECTED TO MAP** button to add the layers to the map. Select the **REPLACE MAP WITH SELECTED** to make a new map with just the layers you selected from this page. The **PREVIEW SELECTED** button will give you a preview of your selected layers together with the first layer in the list being the topmost image displayed.

Titles in italic with a yellow background indicate layers which are not in scale. Select the **TOGGLE IN SCALE LAYERS** button to switch between all layers and only layers which are in scale. The default is to display all layers.

Currently 184 layers displayed

Select	Title	Visibility	Up	Down	Format	Style/SLD	Legend	Brightness
☑	NV-WILSONS SNIPE(Gallinago delicata)	☑		▼ ⊻	image/png ▼	N/A	N/A	100 %
☑	VA-WILSONS PLOVER (Charadrius wilsonia)	☑	⊼ ▲	▼ ⊻	image/png ▼	N/A	N/A	100 %
☑	TX-WILSONS PLOVER (Charadrius wilsonia)	☑	⊼ ▲	▼ ⊻	image/png ▼	N/A	N/A	100 %
☑	SC-WILSONS PLOVER (Charadrius wilsonia)	☑	⊼ ▲	▼ ⊻	image/png ▼	N/A	N/A	100 %
☑	LA-WILSONS PLOVER (Charadrius wilsonia)	☑	⊼ ▲	▼ ⊻	image/png ▼	N/A	N/A	100 %
☑	CO-AMERICAN GOLDEN-PLOVER(Pluvialis dominica)	☑	⊼ ▲		image/png ▼	N/A	N/A	100 %

Select All | Deselect All | Remove Selected | Preview Selected

MAKE THIS THE NEW MAP | ADD THESE LAYERS TO MAP

Voila… you should be able to see the maps (if the service is working). There are times when the map services will not always respond. If at first you don't succeed, try again a bit later. Distributed mapping sometimes takes patience!

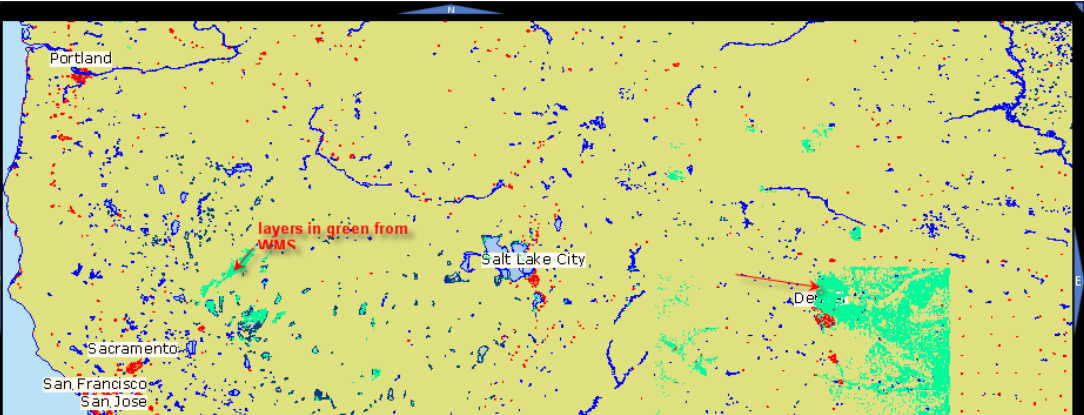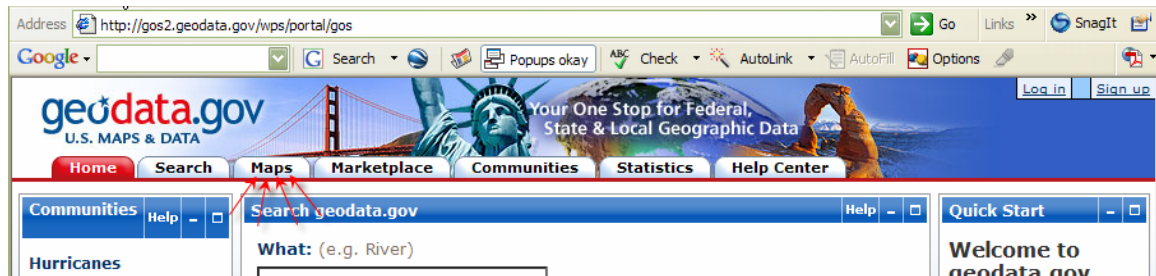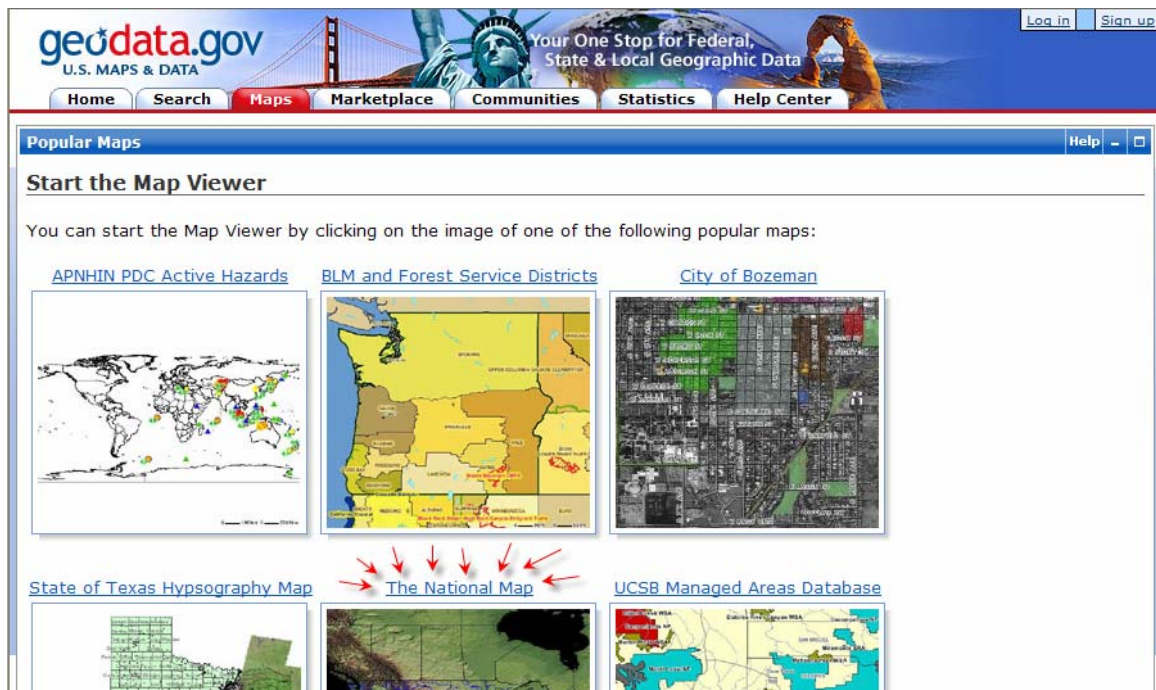You can now save the map as a XML file called a Map Context Document and store on your computer, or send in an email. The map context document will retain the layers you loaded and the zoom of the map, and if the map viewer allows it, it will also retain any annotations you have created. This Map Context Document can be opening in an Open Map Viewer such the one show here.

II. Loading into the Geospatial One Stop's Open Map Viewer

►http://www.geodata.gov

►Click on the Maps Tab. Select one of the Maps to start the map viewer. I normally use the National Map.

►Click on the [icon] icon. (a Plus sign with yellow) and you will get a popup. Ensure you can receive pop-ups from this site.

▶ In the Field labeled map server URL, enter the URL to the capabilities file.

geodata.gov Map Viewer

ADD SERVICES

Look In geodata.gov Map Viewer Internet Server List:

Internet Server List

Or Server URLs In Current Map:

Server URLs In Current Map

Map Server URL:

http://gapmap.nbii.gov/wmsconnector/

Account

☐ Show restricted ArcIMS services

OK   CLOSE   HELP

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   Creator: Information Center for the Environment, UC Davis, California Information Node, National Biological Information Infrastructure

   Publisher: Information Center for the Environment, UC Davis

   Controlled Subject: Invasive species, Mapping

   Resource Identifier: http://cain.nbii.org/crisis/crisismaps

   Resource Type: Databases and Information Systems, Internet Map Services

   Format: Interactive Mapping

   Language(s): English

   Rights Management: Copyright held by Publisher

   Cataloguing Node: California Information Node

   Relation: http://cain.nbii.gov/cgi-bin/mapserv? map=/var/www/html/cain/crisis/crisismaps/wmsspecies.map&request=GetCapabilities

This URL can also be found listed specifically as the WMS Capabilities file…

GAP Resources

American black bear (Ursus americanus) Potential Distribution Map

Resource Identifier: http://gapmap.nbii.gov/generatemap.php? species=Ursus%20americanus
Creator: United States Geological Survey (USGS) GAP Analysis Program
Subject: GAP Analysis, distribution, population distribution, habitats, animal models, animals, Mammals, Carnivores
Uncontrolled Keywords: modelled distribution, common species, GAP Analysis Program
Scientific Names: Ursus americanus
Common Names: American black bear
Description: This map represents the GAP species potential distribution based on a habitat affinity model created for the American black bear (Ursus americanus) from available data within the US. This species taxonomy is defined as: ITIS Taxonomic Serial Number (TSN) is 180544: belonging in the order of Carnivores (Carnivora) and family of Bears (Ursidae). The NatureServe Element Code (ELCODE) for this species is AMAJB01010. This GAP Analysis data layer exists in an OGC Web Map Service 1.1.1.
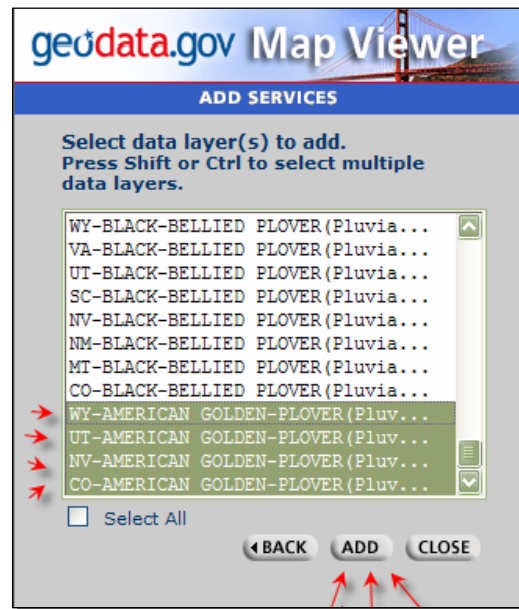**State:** Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Kentucky, Louisiana, Maine, Massachussetts, Michigan, Mississippi, Missouri, Montana, Nevada, New Mexico, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, Virginia, Washington, West Virginia, Wyoming
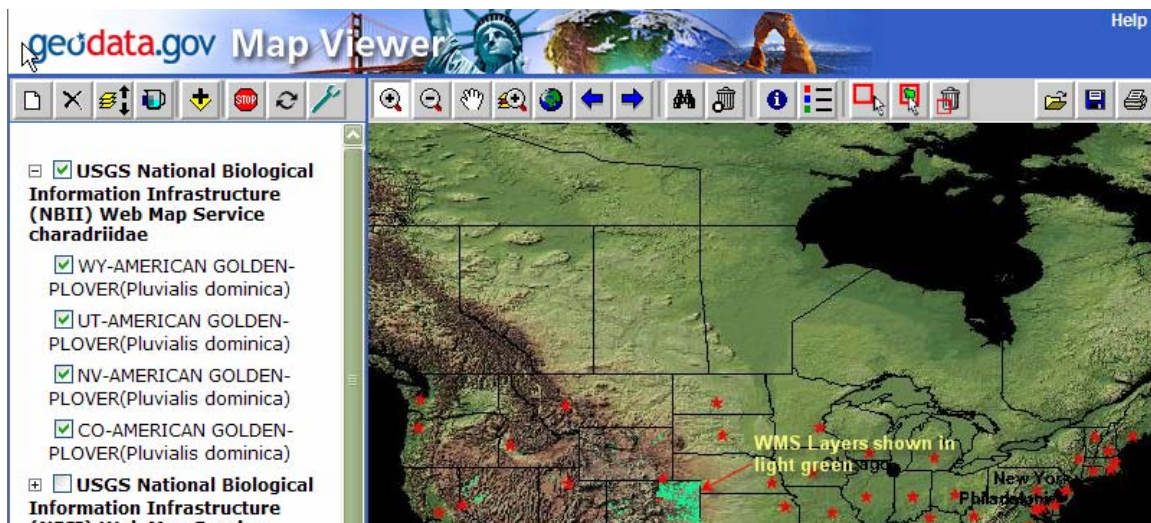
View Map
View OGC Web Map Service Capabilities File
Find more data like this

►Once you enter the WMS Capabilities URL, you will then get a list of the layers within the map service . Pick one or all, and click on the add button.

Voila… you should be able to see the maps (if the service is working)

You can now save the map as a XML file called a Map Context Document and store on your computer, or send in an email. The map context document will retain the layers you loaded and the zoom of the map, and if the map viewer allows it, it will also retain any annotations you have created. This Map Context Document can be opening in an Open Map Viewer such the one show here.

For More Information:

Contact Donna Roy, at droy@usgs.gov or at (703) 648-4209.